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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,194	08/19/2004	Hideaki Miura	890050.497USPC	3719

500 7590 11/01/2006

SEED INTELLECTUAL PROPERTY LAW GROUP PLLC  
701 FIFTH AVE  
SUITE 5400  
SEATTLE, WA 98104

EXAMINER

GIESY, ADAM

ART UNIT PAPER NUMBER

2627

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/505,194

Applicant(s)

MIURA ET AL.

Examiner

Adam R. Giesy

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 12-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification fails to teach an "optical recording medium comprising setting information required for setting powers of a top pulse and/or a last pulse of the laser beam..." (claim 12). Examiner asserts that a physical optical medium cannot be constructed of "setting" a laser beam power.

} Can't  
it  
contain  
"setting  
information"?

In view of the rejection above, the Examiner will interpret the claim 12 to mean that the reading/recording apparatus sets the information required for setting the laser powers (in the spirit of claim 7).

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 7-9 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al. (hereinafter Miyamoto – US Pat. No. 6,236,635 B1) in view of Ito et al. (hereinafter Ito – US Pat. No. 5,768,251).

Regarding claim 1, Miyamoto discloses an information recording method for recording information in an optical recording medium having at least a first information recording layer where information is recorded by projecting a pulse-like laser beam whose power is modulated between a plurality of levels including at least a recording power onto the optical recording medium via a light incidence plane and forming thereon a plurality of recording marks selected from a group consisting of several types of recording marks with different lengths, the information recording method comprising a step of setting the recording powers of a top pulse and/or a last pulse of the laser beam used when at least one recording mark is to be formed in the first information recording layer to be lower than the recording power of a multi-pulse thereof, thereby recording information in the first information recording layer (see Figure 12 – not that in the 6T mark, the first and last pulses of the multipulse train are lower than the middle multipulses). Miyamoto fails to disclose that the recording medium has two recording layers.

Ito discloses an optical storage medium in which two single layer discs are combined to create a two layer disc (see Figure 14a; see also column 13, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method of recording to a single layer disc as disclosed by Miyamoto with a two recording layer disc created from two single layer

discs as disclosed by Ito, the motivation being to create a higher capacity optical storage medium that decreases the phenomenon of cross erasure between tracks.

Regarding claim 2, Miyamoto and Ito disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Miyamoto further discloses that the first information recording layer is located on the side of the light incidence plane (see Figure 2). Miyamoto does not disclose a second recording layer. The Examiner asserts that it would be inherent that if a two sided disc as disclosed by the combination of Miyamoto and Ito (as discussed in the claim 1 rejection above) were to be placed in the apparatus as disclosed by Miyamoto (Figure 2), the first recording layer would be located on the light incident plane in relation to the second recording layer.

Regarding claim 3, Miyamoto and Ito disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Miyamoto further discloses that the recording power of the top pulse and the recording power of the last pulse are set to be at the same level (see Figure 12 – note that the top pulse and the last pulse of the 6T mark appear to be at the same level and lower than the middle multipulses).

Regarding claim 4, Miyamoto and Ito disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Miyamoto further discloses that information is recorded with the recording powers of the top pulse and/or the last pulse of the laser beam set to be substantially the same as the recording power of the multi-pulse thereof (see Figure 11). Miyamoto does not disclose a second recording layer. The Examiner asserts that it would be inherent that if a two sided disc as disclosed by the combination of Miyamoto and Ito (as discussed in the claim 1 rejection above) were to be flipped so

that the second side can be recorded upon, then the apparatus of Miyamoto (Figure 2) can record marks using the multipulse trains as shown in Figure 11.

Apparatus claims 7-9 are drawn to the apparatus corresponding to the method of using same as claimed in claims 1,2, and 4. Therefore apparatus claims 7-9 correspond to method claims 1,2, and 4, and are rejected for the same reasons of anticipation (obviousness) as used above.

Regarding claim 12, Miyamoto discloses an optical recording medium which has at least stacked first and second information recording layers and in which information can be recorded by projecting a pulse-like laser beam whose power is modulated between a plurality of levels including at least a recording power onto the optical recording medium via a light incidence plane and forming thereon a plurality of recording marks selected from a group consisting of several types of recording marks with different lengths, the optical recording medium comprising setting information required for setting the recording powers of a top pulse and/or a last pulse of the laser beam used when information is to be recorded in the first information recording layer to be lower than the recording power of a multi-pulse thereof (see Figure 12 – not that in the 6T mark, the first and last pulses of the multipulse train are lower than the middle multipulses). Miyamoto fails to disclose that the recording medium has two recording layers.

Ito discloses an optical storage medium in which two single layer discs are combined to create a two layer disc (see Figure 14a; see also column 13, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical recording medium as disclosed by Miyamoto with a two recording layer disc created from two single layer discs as disclosed by Ito, the motivation being to create a higher capacity optical storage medium that decreases the phenomenon of cross erasure between tracks.

Regarding claim 13, Miyamoto and Ito disclose all of the limitations of claim 12 as discussed in the claim 12 rejection above. Miyamoto further discloses that the first information recording layer is located on the side of the light incidence plane (see Figure 2). Miyamoto does not disclose a second recording layer. The Examiner asserts that it would be inherent that if a two sided disc as disclosed by the combination of Miyamoto and Ito (as discussed in the claim 1 rejection above) were to be placed in the apparatus as disclosed by Miyamoto (Figure 2), the first recording layer would be located on the light incident plane in relation to the second recording layer.

Regarding claim 14, Miyamoto and Ito disclose all of the limitations of claim 12 as discussed in the claim 12 rejection above. Miyamoto further discloses that information is recorded with the recording powers of the top pulse and/or the last pulse of the laser beam set to be substantially the same as the recording power of the multi-pulse thereof (see Figure 11). Miyamoto does not disclose a second recording layer. The Examiner asserts that it would be inherent that if a two sided disc as disclosed by the combination of Miyamoto and Ito (as discussed in the claim 1 rejection above) were to be flipped so that the second side can be recorded upon, then the apparatus of Miyamoto (Figure 2) can record marks using the multipulse trains as shown in Figure 11.

Regarding claim 14, Miyamoto and Ito disclose all of the limitations of claim 12 as discussed in the claim 12 rejection above. Ito also discloses a light transmission layer and the light transmission layer has a thickness of 30 to 200  $\mu\text{m}$  (see column 5, lines 20-25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical recording medium as disclosed by Miyamoto with a light transmission layer thickness as disclosed by Ito, the motivation being to create a higher capacity optical storage medium that decreases the phenomenon of cross erasure between tracks and to create a disc that is more compatible with most optical recording devices.

5. Claims 5, 6, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al. (hereinafter Miyamoto – US Pat. No. 6,236,635 B1) in view of Ito et al. (hereinafter Ito – US Pat. No. 5,768,251) and further in view of Suzuki (US Pat No. 6,771,579 B2).

Regarding claim 5, Miyamoto and Ito disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Neither Miyamoto or Ito disclose a wavelength or numerical aperture.

Suzuki discloses an optical recording method in which a wavelength  $\lambda$  of the laser beam and a numerical aperture NA of an objective lens satisfy the condition that  $\lambda/NA$  is equal to or shorter than 700 nm (see column 4, lines 56-57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method of recording to a single layer disc as



disclosed by Miyamoto with a two recording layer disc created from two single layer discs as disclosed by Ito and the numerical aperture/wavelength combination as disclosed by Suzuki, the motivation being to create a higher capacity high density optical storage medium that decreases the phenomenon of cross erasure between tracks.

Regarding claim 6, Miyamoto and Ito disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Neither Miyamoto or Ito disclose a wavelength or numerical aperture.

Suzuki discloses an optical recording method in which the laser beam has a wavelength  $\lambda$  of 200 to 450 nm (see column 4, lines 58-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method of recording to a single layer disc as disclosed by Miyamoto with a two recording layer disc created from two single layer discs as disclosed by Ito and the wavelength of the laser beam as disclosed by Suzuki, the motivation being to create a higher capacity high density optical storage medium that decreases the phenomenon of cross erasure between tracks.

Apparatus claims 10 and 11 are drawn to the apparatus corresponding to the method of using same as claimed in claims 5 and 6. Therefore apparatus claims 10 and 11 correspond to method claims 5 and 6, and are rejected for the same reasons of anticipation (obviousness) as used above.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam R. Giesy whose telephone number is (571) 272-7555. The examiner can normally be reached on 8:00am- 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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ARG 10/25/2006

A handwritten signature in black ink, appearing to read "Adam R. Giesy", with a long horizontal flourish extending to the right.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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multipulses). Miyamoto fails to disclose that the recording medium has two recording layers.

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Regarding claim 2, Miyamoto and Ito disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Miyamoto further discloses that the first information recording layer is located on the side of the light incidence plane (see Figure 2). Miyamoto does not disclose a second recording layer. The Examiner asserts that it would be inherent that if a two sided disc as disclosed by the combination of Miyamoto and Ito (as discussed in the claim 1 rejection above) were to be placed in the apparatus as disclosed by Miyamoto (Figure 2), the first recording layer would be located on the light incident plane in relation to the second recording layer.

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the motivation being to create a higher capacity high density optical storage medium that decreases the phenomenon of cross erasure between tracks.

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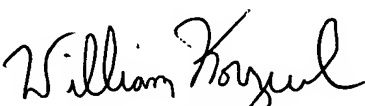
### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam R. Giesy whose telephone number is (571) 272-7555. The examiner can normally be reached on 8:00am- 5:30pm.

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